

Claims

1. An apparatus for feeding fuel from a tank to an internal combustion engine, having a feed pump, a pressure line leading from the feed pump to the engine, a check valve located in the pressure line downstream of the feed pump, and a pressure sensor fluidically communicating with the pressure line, characterized in that the pressure sensor (23) is operatively connected to the pressure line (8) downstream of the feed pump (3) and upstream of the check valve (16).
2. The apparatus in accordance with claim 1, characterized in that the feed pump (3) and the pressure sensor (23) are located in the tank (1).
3. The apparatus in accordance with claim 1, characterized in that the pressure sensor (23) has a temperature sensor.
4. A method for pressure detection, having an apparatus for feeding fuel from a tank to an internal combustion engine, having a feed pump, a pressure line leading from the feed pump to the engine, a check valve located in the pressure line downstream of the feed pump, and a pressure sensor fluidically communicating with the pressure line, characterized in that the pressure sensor (23) is operatively connected to the pressure line (8) downstream of the feed pump (3) and upstream of the check valve (16), and is used for pressure detection in the pressure line (8) and for pressure detection in the tank (1).

5. The method in accordance with claim 4, characterized in that the feed pump (3) and the pressure sensor (23) are located in the tank (1).

6. The method in accordance with claim 4, characterized in that the measurement signal of the pressure sensor (23) is used in an engine controller (29) as a controlled variable for regulating the feed pump (3) and/or for a leak diagnosis in the pressure line (8) and/or for a tank leak diagnosis.

7. The method in accordance with claim 4, characterized in that in the tank leak diagnosis, the course of pressure over time in the tank (1) is measured.

8. The method in accordance with claim 4, characterized in that in the tank leak diagnosis, it is concluded that there is a leak in the tank (1) if, after a predetermined diagnosis time, a pressure change is measured that is greater than a predetermined pressure change, and there is an overpressure or underpressure in the tank (1) before the beginning of the tank leak diagnosis.

9. The method in accordance with claim 4, characterized in that it is concluded that there is a leak in the tank (1) if, after a predetermined diagnosis time, a pressure change is measured that is less than a predetermined pressure change, and there is atmospheric pressure in the tank (1) before the beginning of the tank leak diagnosis.

10. The method in accordance with claim 4, characterized in that in the pressure line leak diagnosis, it is concluded that there is a leak in the pressure line (8) downstream of the check valve (16), if the measurement signal of the pressure sensor (23) drops below a predetermined value.